963


# STATISTICAL BULLETIN

METROPOLITAN LIFE INSURANCE COMPANY

VOLUME 16 SEPTEMBER · 1935 NUMBER 9


OCT 15 '35

## Mortality of the Blind

BLIND persons, especially blind children, suffer a mortality distinctly higher than normal. Their high death rate is due not so much to accidents, as might be expected, but largely to diseases which themselves cause blindness. This is true even for blind children, among whom exceptionally high death rates are recorded from cancer and other tumors of the brain which are primarily responsible for the blindness. These findings are based on the experience of the Metropolitan Life Insurance Company during 1923–1933 on 11,716 Industrial policyholders who were granted disability allowances because of blindness incurred subsequent to the issue of their policies.

As a group, the death rate of these blind policyholders was two and one-half times that of all Industrial policyholders. The picture was slightly better for males than for females. Blind white males had a mortality two and one-quarter times the normal, as compared with two and three-quarter times for white females. The colored blind showed the same excess mortalities according to sex.

Marked differences were found in the excess mortality of the blind according to age. Among the children the situation was extremely bad, the mortality being 20 times the normal at ages under 10, and 35 times at ages 10 to 14. After that age the ratio of the death rate to normal decreased rapidly. For example, between ages 15 and 19, it was 14 times the normal; between 30 and 39, 6½ times; between 50 and 59, 3½ times; between 70 and 79, less than twice; and at ages 80 and over, only 1½ times the normal.

Most of these blind people were old and in a large number of cases the blindness was hardly more than a complication or symptom of another disease. In the majority of instances, the blindness was reported as due to specific affections of the eye, but study of the causes of death showed that the facts were not accurately reported in many cases, and that the blindness was actually due to a general disease. The eye condition most frequently reported as the cause of blindness was cataract. Next in importance was glaucoma (hardening of the eyeball) and third, atrophy of the optic nerve. Combinations of two or more diseases resulting in blindness were also frequent. General diseases as the cause of blindness were reported

in one-sixth of the cases, but as we have indicated, the true number is really much larger. The diseases most frequently reported were syphilis, diseases of the brain (chiefly cerebral hemorrhage), diabetes, arteriosclerosis, and kidney disease (chiefly chronic nephritis). Accidents were responsible for the blindness of a relatively small proportion, only 6 percent of the total cases. No particular type of accident predominated. Notable also was the comparative rarity of blindness due to the abuse of alcohol. Because of the nature of this insurance material, cases of blindness due to congenital causes, which generally account for an appreciable percentage of blindness, were very infrequent in this experience. The cause of blindness was unknown in a relatively large number of cases.

Study of the causes of death among these blind persons showed several striking features. Offhand, one would expect that the accident death rate would be very high, but it was actually only about one and three-quarter times the normal, or appreciably lower than the excess mortality from other important causes. The relatively good showing with respect to accidents is due to the sheltered and restricted lives of the blind which markedly reduce their exposure to accidents. Thus, the blind figure relatively seldom in occupational, motor vehicle and public accidents which, in the general population, account for two-thirds of all fatal accidents, whereas home accidents, to which the blind are subject, are responsible for one-third of the general accident toll.

Suicide likewise showed a smaller excess than most other causes of death, indicating that the blind become resigned to their condition.

The causes of death which showed the highest mortalities as compared with normal were syphilis and diabetes, the death rates from which were respectively over twelve and over seven times the normal. This is not surprising because both these diseases loom large as causes of blindness. The death rate from diseases of the arteries was over four and one-half times the normal and that from chronic nephritis, over three times the normal. The high death rates from these causes largely reflect also their causative relationship to blindness. Other diseases in which the death rates were distinctly above normal were organic heart disease, cerebral hemorrhage, pneumonia and influenza, and cancer. The tuberculosis death rate was only slightly higher than the standard.

The causes of death of blind children and young people are of especial interest. Most striking is the extremely high death rate from cancer. This is due to the frequency of malignant tumors of the brain as the cause of the blindness at these young ages. Although the fact is not generally known, the brain is one of the few sites where the incidence of cancer is high in early life. Deaths from brain tumor were likewise relatively frequent among these young blind people. The tumors in

some of these cases also were probably malignant. Other diseases with a heavy death rate among young blind people were syphilis, tuberculosis and other respiratory diseases. In contrast is the rarity of fatal accidents among these young blind persons, only one being recorded. This shows distinctly the protection against accidents afforded blind people by the restricted activity resulting from their disability.

## The Conquest of Diphtheria in New York City

THE remarkable progress made in the reduction of diphtheria is nowhere better exemplified than in the records of New York City. The health authorities of this city were the pioneers in the field of diphtheria prevention; they took the lead in putting into effect, as soon as it appeared, each new progressive control measure and, in many instances, were the creators of such new procedures. Consequently, a review of their activities during the past forty years provides a concise epitome of the entire campaign and its extraordinary success.

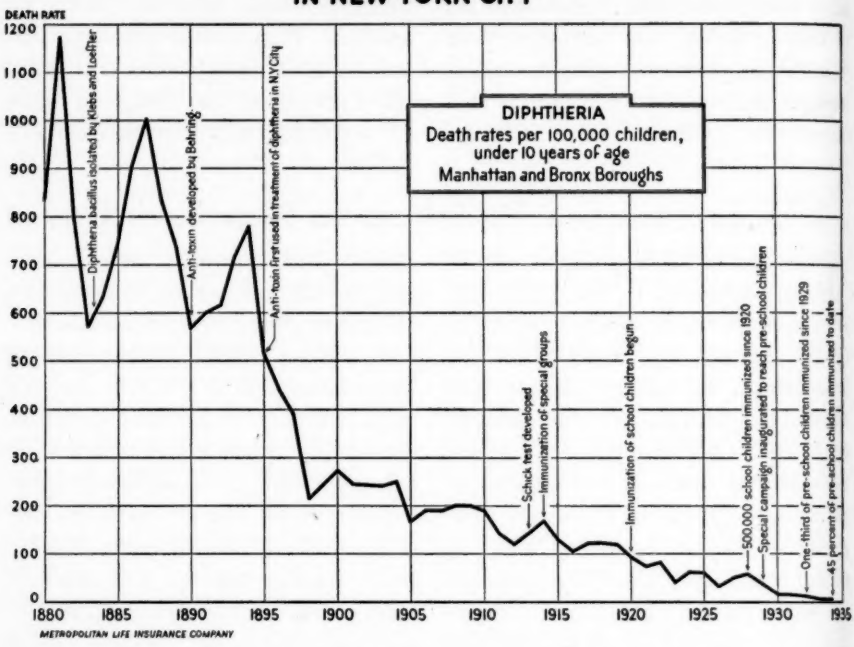
The chart on page 4, showing the trend since 1880 of diphtheria mortality among children under 10 years of age in the boroughs of Manhattan and the Bronx has special significance. It will be observed that during the eighties, mortality from diphtheria among children under 10 in what was then New York City ranged around 800 per 100,000 with almost incredible peaks of 1,175 and 1,005 in the years 1881 and 1887 respectively. During this period treatment was directed mainly toward disinfection, dissolving the pseudo-membrane and supporting the strength of the sick child. Nothing was known concerning the efficacy of anti-toxin or the possibilities of immunization.

It was not until 1890 that Behring first developed anti-toxin and not until January 1895 that practical use of this discovery was made on a considerable scale within the city. When administered early in the disease, the beneficial effect of anti-toxin on the patient was remarkable. Also, it was effective in immunizing for short periods those children who were exposed to the infection. The immediate result of this procedure was amazing. The diphtheria death rate that year dropped more than 33 percent and three years later it had declined to the then unheard of figure of 215 per 100,000 children under 10, slightly more than one-quarter of that recorded in 1894.

Prior to the discovery of anti-toxin, at least 45 percent of all diphtheria cases ended fatally; by 1906 the fatality rate had fallen to 13 percent. Owing to the short period of immunity provided by anti-toxin, however, the extremely high prevalence of the disease continued unabated.

At about this time (1895–1896)

## DIPHTHERIA MORTALITY REDUCED ALMOST TO VANISHING POINT IN NEW YORK CITY




Babes and Park, working independently, discovered that neutralized anti-toxin (toxin anti-toxin) would bring about the development of anti-toxin in animals. It was not until the development of the Schick test in 1913, however, that much practical use could be made of this discovery. The Schick test made it possible to determine not only which children were naturally immune to the disease but also the length of time it took to acquire immunity after receiving toxin anti-toxin treatment. At first this procedure was employed only among special groups of children, those in institutions, etc., but by 1920 the city health authorities had become so certain of the effectiveness of toxin anti-toxin that they decided definitely to attempt the complete elimination of diphtheria through the immunization of all school children. The death rate meanwhile had been declining steadily despite marked short-term rises. Up to this time, however, the mortality had not fallen below 100 per 100,000 children under 10 years of age.

By 1928 it was estimated that 500,000 school children had received injections; the death rate meantime being cut nearly in half. Nevertheless it was realized that diphtheria never could be completely controlled until the pre-school child could be reached as well as the school child. The immunization of school children had served to educate parents re-

garding the harmlessness and value of toxin anti-toxin and so it was decided that the time was ripe to undertake the project of immunizing the younger children. Accordingly, in 1929, an intensive campaign for this purpose was undertaken by the Special Diphtheria Prevention Commission. How well they performed their task is apparent from the mortality chart on page 4. In 1934 it was estimated that about 45 percent of all pre-school children had received injections since the start of the campaign in 1929. During this period the total number of cases (all ages) reported in Manhattan and Bronx Boroughs had fallen from 3,854 in 1929 to 686 in 1934, the deaths meanwhile declining from 190 to 32. The fatality rate, however, remained about the same, slightly less than 5 percent.

In view of the difficulties inherent in educating a polyglot and largely unassimilated population such as that of New York along these lines, the results reflect a splendid achievement. It constitutes a shining example of what can be accomplished through the whole-hearted and intelligent cooperation of all interested groups in the population. That there is still room for improvement in New York, however, is evidenced by the diphtheria records of a number of other cities in this country. Certain of these have succeeded so well in their efforts to wipe out the disease that they were able to report in 1934 not a single diphtheria death among their children. Among these may be mentioned the Connecticut cities of Bridgeport, Hartford, and New Haven; Duluth, Minnesota; Cambridge, Massachusetts; Syracuse, New York; and Salt Lake City, Utah. These, by no means, comprise all that have completely succeeded in eliminating diphtheria within their precincts. They serve to show what can be accomplished and thus to encourage further effort in the Metropolis of the country. It is much to be hoped that New York City, which has been identified with this campaign from the beginning, will not be long in demonstrating that what has been accomplished in smaller municipalities can be done also in the largest cities as well.

## Infant Mortality Increased in 1934

WHATEVER satisfaction was derived from the 1934 rise in the American birth rate—the first increase in ten years—is now tempered by the fact that there was during that year an increase also in the infant mortality rate, which had been declining fairly consistently since the formation of the United States Birth Registration Area twenty years ago. During the previous six years, 1928-1933, the general infant mortality rate for this area had dropped approximately 16 percent.

It is interesting to observe that the 1934 increase was not general throughout the entire country. Al-

though a number of western States showed increases, the rise was most noticeable in the eastern half of the United States. Practically the entire region lying east of the Mississippi River was adversely affected. Of the 26 States comprising this area, 21 recorded higher infant mortality figures in 1934 than in 1933. Only five eastern States—Massachusetts, New York, Rhode Island, Vermont and West Virginia—succeeded in maintaining or improving their records of the previous year. Of these, Massachusetts made the best showing, having reduced its 1933 infant mortality rate by nearly 5 percent in 1934; New York improved its 1933 figure by slightly more than 3 percent, and Rhode Island by slightly less than that amount; Vermont and West Virginia did little more than maintain the gains of the preceding year.

The increase in deaths among infants under one year of age was especially noticeable along the Atlantic seaboard and particularly in that group of States known as the South Atlantic States. With the exception of West Virginia and the District of Columbia, every one of these States showed increases over 1933, ranging from 2 percent in Delaware to more than 18 percent in Georgia. North Carolina recorded an increase of over 17 percent; South Carolina one of more than 10 percent; and Florida a rise of nearly 9 percent.

Another group of States which showed decided losses in the fight against infant mortality were six contiguous to the Ohio or Mississippi Rivers, namely, Indiana, Illinois, Missouri, Kentucky, Tennessee and Arkansas. Especially to be deplored were the losses in Missouri and Kentucky, the first of which reported an increase of 13 percent and the latter a rise of over 11 percent.

West of the Mississippi, the situation was much better, only ten of the twenty-two States in this area having reported setbacks in their efforts to further reduce infant mortality within their boundaries during 1934. Next to Missouri, the poorest record of the western States was presented by Washington, wherein the death rate of infants increased nearly 11 percent during the past year. In justice to this State, however, it should be mentioned that Washington still has one of the lowest infant mortality rates in the country, 43 per 1,000 live births. Following these, South Dakota, Oklahoma and Idaho had the least satisfactory records, each showing increases of at least 7 percent. Other States west of the Mississippi reporting increases were Iowa, Arkansas, Montana, Utah and Colorado, all of which recorded rises in excess of 4 percent.

In the face of these figures, it is encouraging to note that the States of Nebraska, Kansas, Arizona and Texas managed so well to withstand the general trend as to further decrease their infant mortality rates from 7 to 9 percent; but the palm goes to Nevada which reduced the mortality of its infants from 73 to

## *Infant Mortality* in the United States, 1933-1934*

| Geographic Division | 1934 | 1933 | Percent Change Between 1933 and 1934 |
|---|---|---|---|
| United States | 59.9 | 58.1 | +3.1 |
| New England States | 53.3 | 53.6 | — 0.6 |
| Maine | 70.7 | 66.3 | + 6.6 |
| New Hampshire | 60.7 | 55.9 | + 8.6 |
| Vermont | 52.6 | 53.0 | — 0.8 |
| Massachusetts | 49.6 | 52.0 | — 4.6 |
| Rhode Island | 53.9 | 55.5 | — 2.9 |
| Connecticut | 48.8 | 48.4 | + 0.8 |
| Middle Atlantic States | 52.8 | 52.4 | + 0.8 |
| New York | 51.9 | 53.6 | — 3.2 |
| New Jersey | 49.1 | 46.3 | + 6.0 |
| Pennsylvania | 55.0 | 53.4 | + 3.0 |
| East North Central States | 53.0 | 50.9 | + 4.1 |
| Ohio | 53.9 | 52.7 | + 2.3 |
| Indiana | 56.5 | 53.0 | + 6.6 |
| Illinois | 52.8 | 49.0 | + 7.8 |
| Michigan | 52.0 | 50.5 | + 3.0 |
| Wisconsin | 49.4 | 48.5 | + 1.9 |
| West North Central States | 53.1 | 52.0 | + 2.1 |
| Minnesota | 47.2 | 47.6 | — 0.8 |
| Iowa | 50.6 | 48.3 | + 4.8 |
| Missouri | 62.6 | 55.4 | +13.0 |
| North Dakota | 57.2 | 60.0 | — 4.7 |
| South Dakota | 59.0 | 54.8 | + 7.7 |
| Nebraska | 45.8 | 49.3 | — 7.1 |
| Kansas | 48.6 | 53.5 | — 9.2 |
| South Atlantic States | 75.0 | 68.4 | + 9.6 |
| Delaware | 61.4 | 60.4 | + 1.7 |
| Maryland | 70.2 | 65.8 | + 6.7 |
| District of Columbia | 65.3 | 67.2 | — 2.8 |
| Virginia | 72.6 | 68.5 | + 6.0 |
| West Virginia | 67.3 | 68.2 | — 1.3 |
| North Carolina | 77.4 | 66.0 | +17.3 |
| South Carolina | 86.1 | 78.2 | +10.1 |
| Georgia | 78.9 | 66.7 | +18.3 |
| Florida | 68.3 | 62.9 | + 8.6 |
| East South Central States | 67.1 | 64.5 | + 4.0 |
| Kentucky | 64.6 | 58.1 | +11.2 |
| Tennessee | 73.7 | 69.3 | + 6.3 |
| Alabama | 65.3 | 65.1 | + 0.3 |
| Mississippi | 65.5 | 63.6 | + 3.0 |
| West South Central States | 65.7 | 68.3 | — 3.8 |
| Arkansas | 57.3 | 54.4 | + 5.3 |
| Louisiana | 69.1 | 70.1 | — 1.4 |
| Oklahoma | 60.4 | 56.4 | + 7.1 |
| Texas | 69.1 | 75.5 | — 8.5 |
| Mountain States | 75.0 | 75.0 | ... |
| Montana | 53.6 | 51.5 | + 4.1 |
| Idaho | 50.5 | 47.2 | + 7.0 |
| Wyoming | 53.0 | 54.7 | — 3.1 |
| Colorado | 72.6 | 68.9 | + 5.4 |
| New Mexico | 132.1 | 136.1 | — 2.9 |
| Arizona | 103.0 | 111.4 | — 7.5 |
| Utah | 49.6 | 47.6 | + 4.2 |
| Nevada | 58.3 | 73.2 | —20.4 |
| Pacific States | 48.5 | 49.2 | — 1.4 |
| Washington | 43.0 | 38.8 | +10.8 |
| Oregon | 39.8 | 40.3 | — 1.2 |
| California | 51.6 | 53.7 | — 3.9 |

*Deaths under 1 year of age per 1,000 live births.

58 per 1,000 live births, a gain of more than 20 percent. Other western States deserving commendation are California, Wyoming and North Dakota.

An excellent reason why Oregon and Minnesota showed improvements of only about 1 percent, is that these States already had such low rates that there was comparatively little room for further improvement. Oregon, by the way, enjoys the distinction of having the very lowest infant mortality rate of any State of the Union, 39.8 per 1,000 live births. New Mexico, on the other hand, continues to record the highest rate, 132.1. This State and Arizona are the only two which still tolerate infant death rates of more than 100 per 1,000 live births.

One naturally wonders whether the rising infant mortality in so many States during 1934 was not the first visible consequence of the widespread curtailment of State health services during the latter years of the depression. If so, it is to be hoped that this will be a warning sign realized in time, and that appropriate steps will be taken to forestall further impairment of a service which so far has been a source of the greatest credit to public health workers of the United States.

## Gas Poisoning Deaths Decline

THIRTEEN persons in each million of the population died last year from poisonous gases accidentally inhaled. This is the same rate that prevailed in 1933, but it marks a noteworthy drop from 22 per 1,000,000 in 1929*, and a still greater decline from the rate of 24 as recorded ten years ago*. The actual number of deaths from gas poisonings, in 1934, was 1,694.

It is particularly important, at this time of the year, to consider the kinds of gases concerned, and the manner in which these tragic deaths occur; for we are on the threshold of the season when they have their greatest incidence. Every year the number of deaths from gas poisoning rises rapidly in October and November, and reaches its maximum in the winter months. In December, January and February, the number of deaths from this means of injury is three times as great as in the period July through September. Official statistics for the country as a whole, unfortunately, do not show what particular gases are chiefly responsible for this mortality. Death claim records for policyholders insured in the Industrial Department of the Metropolitan Life Insurance Company, however, show that year after year one lethal agency alone, carbon monoxide, is responsible for all but a small proportion of the gas poisoning deaths. Illuminating gas, which contains up to 30 percent of carbon monoxide, causes about two thirds of the fatalities, according to the

*In expanding Registration Area for deaths.

figures for these insured industrial wage-earners. The escape of this gas is due to a variety of causes: to flexible pipe becoming detached from heaters, to the inadvertent turning of gas jets, to defective tubing, leaking gas fixtures, or to the extinction of gas flames by overboiling water or by a gust of wind.

The marked decline in the number of deaths from gas poisoning in ten years is due largely to the drop in deaths from illuminating gas. Wider use of tested and approved gas tubing and appliances undoubtedly has played an important part, and the spread of knowledge on the correct application of artificial respiration has also saved many lives.

Carbon monoxide gas produced by automobiles was responsible for 609 deaths in the United States in 1932, or almost five times the number in 1924. Such deaths most frequently occur when motors are run in home garages, with doors and windows closed. The facts for the years 1933 and 1934 for the general population are not at hand, but our insurance data indicate a sharp decline in the number of deaths of this character for these two years. Many automobile carbon monoxide deaths, it is worthy of mention, would have been classified as suicidal if all the facts had been known; and this is also true of deaths from illuminating gas. International classification procedure requires that only those deaths about which there is no question of motive may be classified as suicidal.

Poisoning by carbon monoxide gas emanating from coal, gas or oil heaters used without flues, in poorly ventilated rooms, is another cause of considerable mortality. In other instances, asphyxiation occurs when stoves or furnace pipes become disconnected or when drafts are so set that partially burned gases escape. A tragic instance of this kind involved the death of nine Dartmouth College students in the winter of 1934. A number of deaths from carbon monoxide also occur in industry and in mines, and in years of major catastrophes such deaths swell the total number considerably.

Ammonia, hydrogen sulphide, benzol, and hydrocyanic acid gases, as well as a number of others, are responsible for a few deaths each year; but the total is relatively small. Anesthesia also accounts annually for a small number of deaths from gas poisoning.

Gas poisoning deaths are much more frequent among males than among females and among white than colored persons. Old persons are the chief victims. Old people, it is thought, do not detect the odor of escaping gas as readily as do young persons. They are more forgetful and occasionally fail to ignite the gas after turning it on. It may be, too, that because older persons suffer more physical defects than the young, they do not withstand the effects of the gas as well, nor can they be revived as easily. Suicide not reported as such, is undoubtedly also an important factor among old people.

Vigorous and widespread educational campaigns, carried on principally in the homes, are called for to combat the dangers of gas poisoning. A check-up should be made in every home by a competent person, on all gas tubing and appliances. A warning should be given against using gas heaters without flues. Furnaces and chimneys should be cleaned and checked over each fall. Operators of automobiles should be repeatedly warned against the dangers of running engines while garage doors are closed. Information should be broadcast that in all types of acute gas poisoning, the manual prone pressure method of resuscitation, such as is used in drowning accidents, should be applied immediately. Many lives would be saved in the United States every year if these precautions were widely taken.

## Health Record for August 1935

THE prospects that 1935 will establish a new record for low mortality, in the insured wage-earning population of the United States, improve with every passing month. During the period January to August, six of the eight months have registered lower death rates than for the same months of 1934, the year which has the best health record to date. Furthermore, at the end of August the cumulative death rate among the many millions of Industrial policyholders was lower by nearly 2 percent than for the like period of last year. The insured group in Canada, however, while registering a lower actual death rate than in the United States have experienced the considerable rise of 7.1 percent as compared with the figure for the January-August period of last year.

The month of August itself made an outstandingly favorable record with a death rate of only 7.4 per 1,000 insured lives.

The 1935 record for the important causes of death is of particular interest. Six diseases (typhoid fever, diphtheria, tuberculosis, diarrheal complaints, chronic nephritis and puerperal conditions) which established new low mortality records in 1934, are responsible for even fewer deaths this year, to date. The most impressive record is that for chronic nephritis whose death rate has declined 8.6 percent this year following a sizable reduction in 1934.

The death rate in the general population of the large cities of the United States in August 1935 was 9.8 per 1,000 estimated population as compared with 10.4 in July 1935 and 9.7 in August 1934. The diseases showing increased prevalence during August, over July, were diphtheria, influenza, poliomyelitis and typhoid fever; those showing declines were measles, scarlet fever and smallpox. There were more cases than in August 1934 of diphtheria, influenza, poliomyelitis and smallpox; but there was less measles, scarlet fever and typhoid fever.

The following table shows the mortality among Industrial policyholders for August 1935; July 1935, and August 1934, together with the cumulative rates for the first eight months of each year.

*METROPOLITAN LIFE INSURANCE COMPANY*

*Death Rates* per 100,000 for Principal Causes. Weekly Premium-Paying Business in Industrial Department. All Ages (Annual Basis).*

MONTHS OF AUGUST 1935; JULY 1935 AND AUGUST 1934.

| CAUSES OF DEATH | ANNUAL RATE PER 100,000 LIVES EXPOSED* | | | | |
|---|---|---|---|---|---|
| | August 1935 | July 1935 | August 1934 | Cumulative January-August 1935 | Cumulative January-August 1934 |
| TOTAL—ALL CAUSES | 742.4 | 779.2 | 808.3 | 871.9 | 889.1 |
| Typhoid fever | 2.0 | 1.4 | 2.6 | .8 | 1.3 |
| Measles | .7 | 2.2 | .8 | 3.4 | 3.8 |
| Scarlet fever | 1.1 | 2.2 | 1.0 | 3.2 | 2.8 |
| Whooping cough | 2.6 | 3.1 | 4.6 | 3.0 | 4.0 |
| Diphtheria | 1.4 | 1.4 | 1.4 | 1.8 | 1.9 |
| Influenza | 2.9 | 3.1 | 2.8 | 17.8 | 12.7 |
| Tuberculosis (all forms) | 52.9 | 57.8 | 57.6 | 58.7 | 61.8 |
| Tuberculosis of respiratory system | 45.9 | 50.6 | 50.1 | 52.5 | 54.3 |
| Syphilis, locomotor ataxia and general paralysis of the insane | 9.5 | 10.2 | 11.2 | 11.3 | 12.3 |
| Cancer (all forms) | 87.7 | 93.8 | 97.5 | 95.0 | 95.8 |
| Diabetes mellitus | 20.1 | 20.7 | 20.7 | 25.2 | 25.1 |
| Cerebral hemorrhage; apoplexy | 54.1 | 56.6 | 58.4 | 62.6 | 65.9 |
| Diseases of heart† | 128.2 | 140.5 | 145.7 | 163.6 | 171.0 |
| Diseases of the coronary arteries and angina pectoris | 25.1 | 29.7 | 23.8 | 32.0 | 29.4 |
| Pneumonia (all forms) | 28.3 | 37.6 | 31.2 | 75.7 | 74.8 |
| Diarrhea and enteritis | 13.8 | 9.3 | 20.1 | 7.8 | 10.0 |
| Appendicitis | 12.9 | 10.0 | 15.8 | 11.7 | 13.2 |
| Chronic nephritis (Bright's disease) | 49.2 | 56.8 | 61.3 | 61.9 | 67.7 |
| Puerperal state—Total | 8.2 | 7.8 | 7.7 | 9.0 | 9.4 |
| Suicides | 10.2 | 10.3 | 9.7 | 9.5 | 9.7 |
| Homicides | 6.8 | 6.2 | 5.9 | 5.9 | 5.5 |
| Accidents—Total | 63.3 | 61.7 | 76.6 | 54.9 | 58.1 |
| Automobile accidents | 23.2 | 19.1 | 22.6 | 19.1 | 19.7 |
| All other diseases and conditions | 161.3 | 156.8 | 152.1 | 157.0 | 152.8 |

*The rates for 1935 are subject to slight correction, since they are based on provisional estimates of lives exposed to risk.

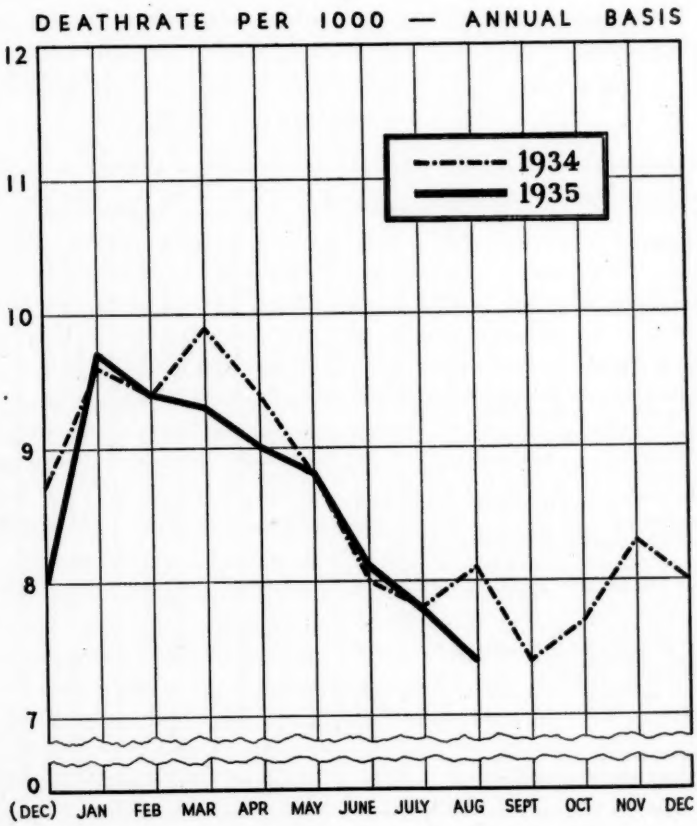
†Excludes pericarditis, acute endocarditis and acute myocarditis.

Correspondence on the subjects discussed in these BULLETINS may be addressed to: The Editor,

STATISTICAL BULLETIN,
Metropolitan Life Insurance Company,
1 Madison Avenue, New York, N. Y.

# DEATHRATES FROM ALL CAUSES

METROPOLITAN LIFE INSURANCE CO. – INDUSTRIAL DEP'T.
WEEKLY PREMIUM PAYING BUSINESS – TOTAL PERSONS




| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1934 | 9.6 | 9.4 | 9.9 | 9.4 | 8.8 | 8.0 | 7.8 | 8.1 | 7.4 | 7.7 | 8.3 | 8.0 |
| 1935* | 9.7 | 9.4 | 9.3 | 9.0 | 8.8 | 8.1 | 7.8 | 7.4 | | | | |

* *Rates for 1935 are provisional*

METROPOLITAN LIFE INSURANCE COMPANY PRESS
NEW YORK, U.S.A.
78449